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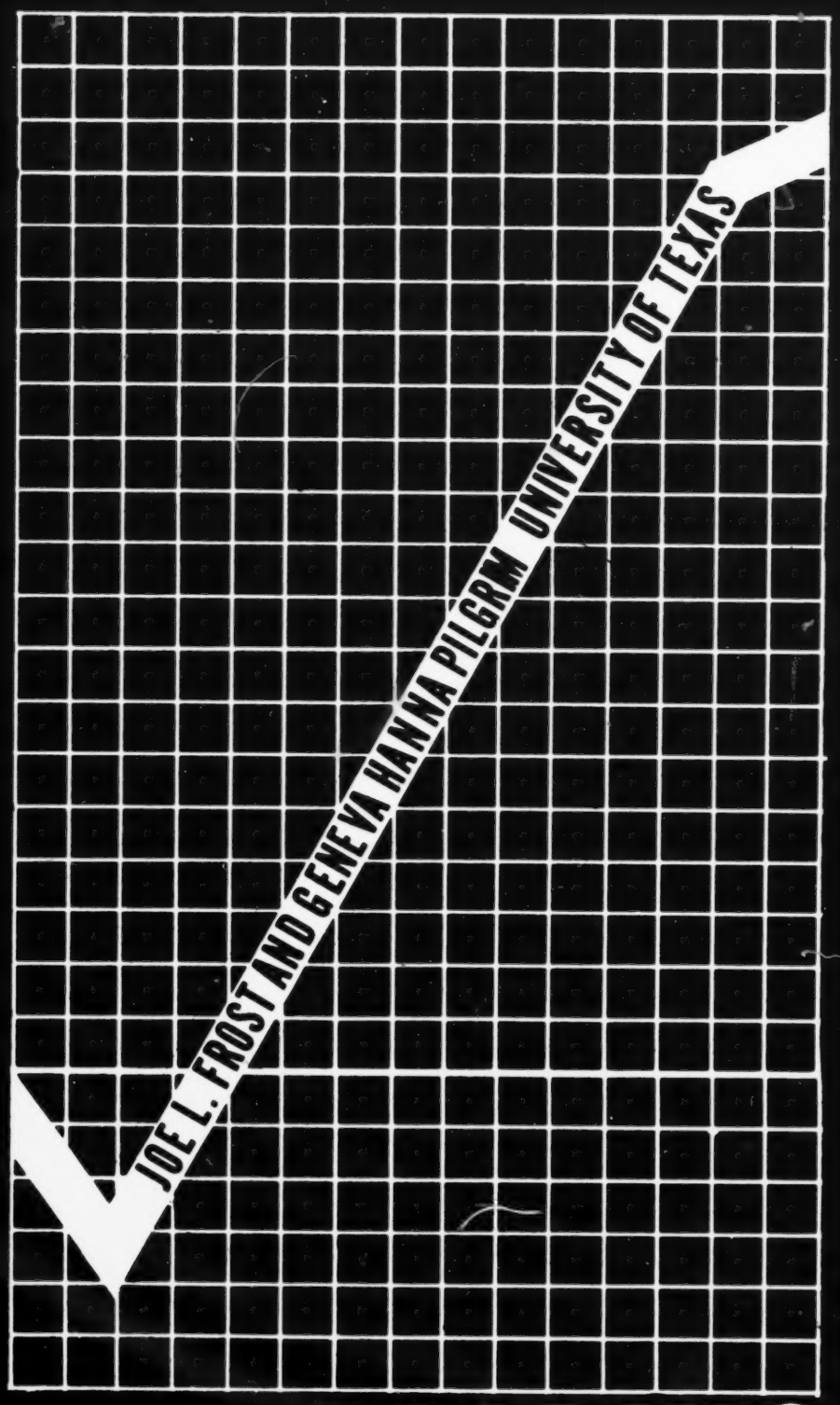
ABSTRACT

This job corps center program is designed for male school drop outs from low socioeconomic backgrounds and ages 16 through 21 years, whose entrance test scores reveal marked deficiencies in reading. Three thousand of the dropouts were enrolled in a foundation reading program designed to advance skills sufficiently for the students to take advanced vocational classes. The reading program had the following impact during 1967-68. The 1967 enrollee spent 3.9 months in the program, gaining one to two months in vocabulary development and three and one-half to four months in reading comprehension for each month spent in the program. The 1968 enrollee gained five to seven months in vocabulary development and five to 12 months in reading comprehension for each month he studied in the program. The discrepancy in results may be due to either the superiority of the 1968 program or biased data due to incomplete results for 1968. The key elements in the success of the program appear to be the diagnosis of reading deficiencies, the individualization of instruction, the multi-media approach, the observed high motivational level of students, and the teamwork of skillful staff members. (JM)



A READING GAINS STUDY

for the

GARY JOB CORPS CENTER 1967 - 68

ED038442

READING ACHIEVEMENT OF GARY JOB CORPS YOUTH ENROLLED IN A DIAGNOSTICALLY BASED PROGRAM

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San Marcos, Texas

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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ERRATA

The following corrections should be made in the manuscript:

Page 26 - "Appendix 4" should read "Appendix 3" (last two words on page).

Throughout the manuscript "MacGintire" should read "MacGinitie."

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INTRODUCTION

The Gary Job Corps Center, San Marcos, Texas, enrolls over 3,000 young men who have dropped out of school. Their ages range from 16 through 21 years; they are from predominantly underprivileged home backgrounds. On the basis of tests administered to each entering corpsman, those revealing marked deficiencies in reading are enrolled in a foundation reading program designed to advance skills sufficiently for the student to take his place in advanced vocational classes. Preliminary reports of the reading staff indicate greater than normal reading achievement for youth enrolled in the reading program, yet no systematic study has previously been performed to ascertain the nature and rate of achievement or the contributing factors.

Need for the Study

Available studies of the public school achievement of disadvantaged (underprivileged children from poverty areas, e.g., Indian reservations, inner city ghettoes, migrant labor areas) children and youth suggest that most tend to follow a cumulative deficiency learning curve (Coleman, 1966). The so-called compensatory programs have enjoyed limited success toward the development of literacy for these young people (Westinghouse and Ohio University, 1969; American Institutes for Research, 1969). This knowledge has stimulated some authorities to assume the position that we must look beyond the school; that other cultural factors, notably home environments, tend to impose

serious restrictions (Moynihan, 1965). Still others have produced evidence that the effects of cultural deprivation during infancy and early childhood are relatively permanent, that irreversible harm may be done prior to school entry (Bloom, 1964; Hunt, 1961, 1964). Rather than assume a defeatist attitude, educators are compelled to search for alternatives to the cumulative deficiency phenomenon and/or the predetermined failure notions.

Purposes of the Study

1. To assimilate demographic data for Gary Corpsmen enrolled in the reading program.

2. To describe the nature of the diagnostic reading program, including such elements as testing materials and procedures, instructional materials and procedures, and teaching techniques.

3. To analyze existing test data with regard to initial reading status and gains of students in relation to time spent in the program.

4. To draw implications from findings for future evaluation and programming.

The Gary Job Corps Center

Job Corps is a national residential training program created to help the more than 2,000,000 Americans between 16 and 21 who have dropped out of school. Enrollment is approximately 30,000 in the 123 Job Corps Centers thus far established.

There are two kinds of centers: Urban Centers, which offer specialized job skill training, and Conservation Centers which emphasize prevocational training and offer academic education, physical education

and citizenship. Guidance and counseling are an integral part of the training in all of the ten Urban Centers for men, eighteen Urban Centers for women, ninety three Conservation Centers and two special Centers currently operating.

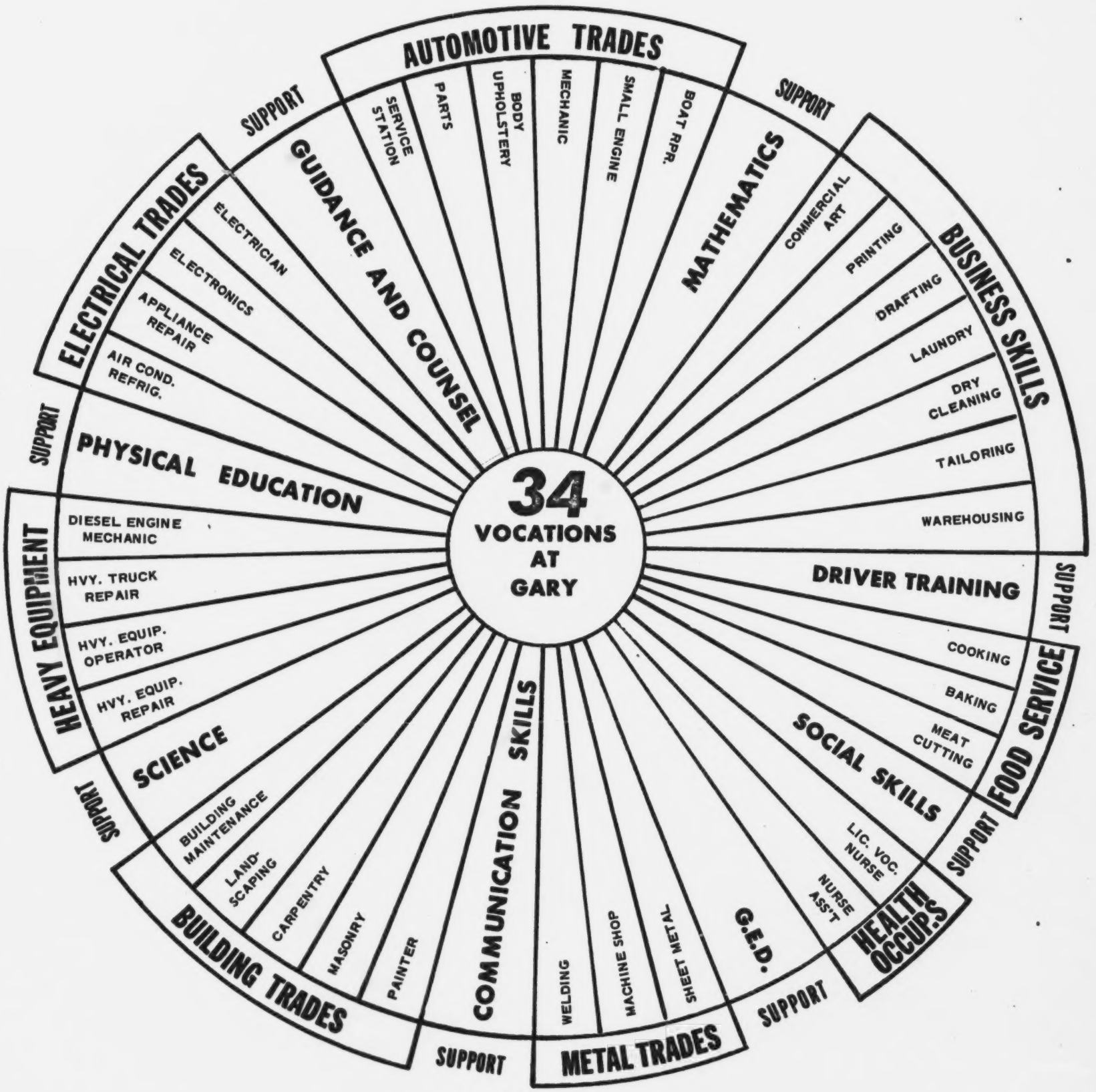
To be eligible for Job Corps, the applicant must be a U.S. citizen or permanent resident, sixteen to twenty one years of age, and out of school. Home situation, neighborhood conditions, and prospects for completing education or finding stable employment are also considered. The maximum training period is two years, but the average student should be employable after one year or less.

Job Corps applications may be obtained at local State Employment Agencies and from offices of Women in Community Service, Inc. The Office of Economic Opportunity, Washington, D.C., will supply information.

In exchange for a minimum of $30.00 per month, less taxes and Social Security, each Job Corps student must perform duties required in the operation and maintenance of the Center in addition to training demands. The student receives a readjustment allowance upon graduation of $50.00, less taxes and Social Security, for each month of satisfactory service. An allotment of up to half that amount may be made to a dependent and the Government will match it.

The largest of the Men's Urban Centers, with an average enrollment of 3,000 and offering job training in thirty-eight vocational areas (See Figure 1), is at San Marcos, Texas. From inception in March, 1965, to September, 1967, the Gary Center processed approximately 8,000 men

FIGURE 1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VOCATIONS
AT
GARY
AUTOMOTIVE TRADES
SERVICE STATION
PARTS
BODY UPHOLSTERY
MECHANIC
SMALL ENGINE
BOAT RPR.
SUPPORT
MATHEMATICS
COMMERCIAL ART
PRINTING
DRAFTING
LAUNDRY
DRY CLEANING
TAILORING
BUSINESS SKILLS
WAREHOUSING
SUPPORT
DRIVER TRAINING
SUPPORT
FOOD SERVICE
COOKING
BAKING
MEAT CUTTING
SUPPORT
HEALTH OCCUPS.
LIC. VOC. NURSE
NURSE ASS'T
SUPPORT
G.E.D.
SHEET METAL
MACHINE SHOP
WELDING
SUPPORT
METAL TRADES
COMMUNICATION SKILLS
PAINTER
MASONRY
CARPENTRY
LAND-SCAPING
BUILDING MAINTENANCE
SUPPORT
BUILDING TRADES
SCIENCE
SUPPORT
HEAVY EQUIPMENT
HVY. EQUIP. REPAIR
HVY. EQUIP. OPERATOR
HVY. TRUCK REPAIR
DIESEL ENGINE MECHANIC
SUPPORT
PHYSICAL EDUCATION
AIR COND. REFRIG.
APPLIANCE REPAIR
ELECTRONICS
ELECTRICIAN
ELECTRICAL TRADES
SUPPORT
GUIDANCE AND COUNSEL
SUPPORT
SOCIAL SKILLS

into jobs, the military, or back into school. Also, approximately 650 corpsmen have received high school equivalency certificates.

Opportunities Incorporated, a group of approximately 100 Texas-based industrial firms, provides unique support to the Gary Center. This organization provides technical advice in designing the Center's curricula, lends their personnel and knowledge when called upon, assists in placing Job Corps graduates, and audits each program to ensure that training courses are in line with industry needs and techniques.

Related Research

The number of studies which are reported in the area of reading improvement for disadvantaged older children and youth who are retarded in their ability to read is small compared to the amount of emphasis on this problem in the current literature. Although some studies in this area do not show much gain in reading ability of disadvantaged youth, there are studies which do show that improvement is possible. In a report by Malpass and Others (1966) a study of the effectiveness of programed instructional materials for teaching basic reading skills to slow learning culturally deprived six to nine year old children was evaluated. Forty-five children were divided into three groups--a control group taught by traditional methods, an experimental group taught by machines, and a second experimental group taught by programed workbooks. The results showed a statistically significant improvement in vocabulary gains for the machine taught group over the control group and for the workbook taught group over the control group, but no significant difference was found between the machine taught and the workbook taught groups. The authors concluded that programed materials tend to increase reading skills and are feasible for use with the population sample.

Burl Brum (1968) reported a reading improvement evaluation study based on the use of Perceptual Development Laboratories reading achievement tests, pre-test and post-test scores were obtained and compared on twelve separate groups of approximately sixteen subjects

each. Significant differences were demonstrated at the .01 level. These groups consistently demonstrated about a 60 per cent increase in reading achievement as a result of their training. Grotberg (1965) also found that after thirty hours of instruction thirty-five disadvantaged ninth grade boys, ranging in age from 14 to 17, raised their reading scores by an average of 1.5 years when effective teachers drawing on available materials used an intensive remedial and developmental approach.

The above studies emphasized gains which can be made by applying specific methods of teaching to a given population sample. Ausabel (1963) stated he believed teaching strategies to be very important for culturally deprived pupils, but he also emphasized the cognitive and motivational aspects of learning as essential also. Three considerations are necessary, according to his theory: selection of initial material geared to the learners' readiness levels, mastery and consolidation of all ongoing learning tasks before new ones are presented, and the use of structured learning materials optimally organized to facilitate efficient sequential learning. Motivation of an intrinsic nature must be developed if learning is to be permanent. This necessitates that the knowledge to be incorporated into the individual must be relevant to areas of concern in his psychological field.

Materials of high interest, great variety, and ready adaptability were used in a study reported by Hall and Waldo (1967). The results as measured by reading test scores were good for all groups, but especially for those pupils with higher I.Q.'s. Others, such as

Balow (1965), Woolman (1964), and Fader and Shaevitz (1966) have reported gains on reading test scores of a year or more for most individuals as a result of relatively short, intensive programs where reading skills are taught in relation to material which has high interest and pertinence to the learner.

Although there are comparatively few carefully controlled studies of reading improvement for disadvantaged adolescents and adults reported in the literature, those that have been reported generally point in the same direction as the findings of the present study. No real contradictions were found. The literature on the subject may be sparse, but the findings are encouraging to those concerned with teaching the functional non-reader to read after he has left elementary school.

PRESENTATION OF DEMOGRAPHIC DATA

The demographic data reported in this section were extracted from the Corps Data Sheet completed by the interviewer at the time the prospective enrollee filed an application for admission. Only the data for Corpsmen enrolled in the Gary reading program, for whom reading test data are also reported, are represented in this study. Demographic data were not available for all subjects for whom reading data were available. This is reflected in the "N" (number of subjects) and the "valid scores" tabulated in the various tables of the report.

The Gary Corpsmen represent a wide range of city sizes, coming from small communities of less than 2,500 residents to large metropolitan areas of over 250,000. No particular city size appears to be disproportionately represented (Table 1).

TABLE 1: HOME CITY SIZE OF CORPSMEN

CITY SIZE	1967 FREQUENCY (N=255)	1967 PERCENTAGE	1968 FREQUENCY (N=156)	1968 PERCENTAGE
Less than 2,500	67	26	38	24
2,500 - 50,000	97	38	61	39
50,000 - 250,000	38	15	32	21
More than 250,000	53	21	25	16

Corpsmen entering the Gary Center during 1967 had been out of school an average of 14 months with a range of one month to ninety-six months. Corpsmen entering during 1968 had been out of school an average of fifteen months with a range of one to eighty-four months (Table 2).

TABLE 2: MONTHS OUT OF SCHOOL

NO. OF MONTHS	1967 FREQUENCY (N=236)	1967 PERCENTAGE	1968 FREQUENCY (N=146)	1968 PERCENTAGE
1	9	4	6	4
2	2	1	7	5
3	40	17	16	11
4	25	11	6	4
5	8	3	13	9
6	5	2	8	5
7	13	6	6	4
8	5	2	7	5
9	10	4	8	5
10	6	3	6	4
11	3	1	11	8
12	25	11	0	0
13	5	2	1	1
14	2	1	1	1
15	3	1	5	3
16	1	0	1	1
17	3	1	1	1
18	7	3	3	2
20	1	0	2	1
21	1	0	1	1
22	2	1	1	1
23	2	1	0	0
24	21	9	12	8
25	1	0	1	1
26	0	0	1	1
27	3	1	1	1
28	2	1	0	0
29	3	1	0	0
30	4	2	0	0
31	0	0	1	1
32	2	1	0	0
33	1	0	0	0
34	0	0	3	2
36	9	4	4	3
38	1	0	0	0
39	1	0	0	0
40	2	1	1	1
45	1	0	1	1
46	0	0	1	1
48	4	2	4	3
49	0	0	1	1
50	1	0	0	0
60	1	0	3	3
84	0	0	2	1
96	1	0	0	0

$\bar{X}$ = 13.84 (1967)

$\bar{X}$ = 15.08 (1968)

The critical need for additional schooling is reflected in the grade level achieved by Corpsmen. The average grade completed by 1967 Corpsmen was the ninth with a range of two to ten. The average grade completed by 1968 enrollees was somewhat less at eight and six tenths with a range of two to twelve (Table 3).

TABLE 3: HIGHEST GRADE COMPLETED

GRADE	1967 FREQUENCY (N=257)	1967 PERCENTAGE	1968 FREQUENCY (N=156)	1968 PERCENTAGE
2	1	0	0	0
4	2	1	0	0
5	4	2	7	4
6	13	5	11	7
7	41	16	23	15
8	61	24	38	24
9	55	21	30	19
10	37	14	24	15
11	0	0	9	6
12	0	0	14	9

$\bar{X}$ = 9.2 (1967)

$\bar{X}$ = 8.6 (1968)

The general level of English competence was determined by the interviewer at individual recruitment centers. Such ratings are subject to wide variations of accuracy and are not to be construed as valid

estimates. The three categories of English competence were "good," "fair," and "none." The large majority of the interviewees were rated "good" in English competence (Table 4).

TABLE 4: ENGLISH COMPETENCE

COMPETENCE LEVEL	1967 FREQUENCY (N-255)	1967 PERCENTAGE	1968 FREQUENCY (N-156)	1968 PERCENTAGE
Good	208	81	125	80
Fair	46	18	31	20
None	1	0	0	0

Considerable variation in assessment of home language by interviewers is evident. It appears that native English speakers were frequently rated "non-applicable" or "not specified." The proportion of native Spanish speakers for the years 1967 and 1968 was fifteen per cent and eleven per cent, respectively. This is a reflection of the large numbers of Mexican-Americans living in the geographical area (South Texas) where the Job Corps Center is located. The validity of the above assumptions is strengthened by the more precise information on race of participants. Among the 1967 enrollees, eighteen per cent were of Latin extraction and eleven per cent of the 1968 enrollees were Latin. This corresponds closely with the assigned percentage of Spanish speakers. During both years all remaining participants were "white" or "Negro," suggesting a preponderance of English speakers which is supported by direct observation (Table 5).

TABLE 5: HOME LANGUAGE AS DESIGNATED BY INTERVIEWERS

LANGUAGE	1967 FREQUENCY (N=224)	1967 PERCENTAGE	1968 FREQUENCY (N=149)	1968 PERCENTAGE
English	2	1	0	0
Spanish	34	15	16	11
French	1	0	0	0
Hungarian	1	0	0	0
Non-applicable	161	72	114	77
Not specified	25	11	19	13

On the average, 1967 Corpsmen had been out of work fourteen weeks upon entry to the Center. The corresponding figure for 1968 was nineteen weeks. These statistics are open to broad interpretation since it is unknown whether the enrollees actively sought work, whether they worked full- or part-time, or whether they were kept from work by school attendance. However, visual comparison of Tables 2 and 6 suggests that job participation did not correspond with being out of school. In 1968, for example, the average number of months out of school was fifteen (sixty weeks) while the average number of weeks out of work was only nineteen. This suggests that most Corpsmen were unemployed and unschooled (particularly unschooled) for long periods of time and that many dropped out of school to "get a job" (Table 6).

TABLE 6: NUMBER OF WEEKS SINCE EMPLOYED

WEEKS	1967 FREQUENCY (N=156)	1967 PERCENTAGE	1968 FREQUENCY (N=76)	1968 PERCENTAGE
0	8	5	0	0
1	15	10	4	5
2	17	11	3	4
3	12	8	1	1
4	17	11	6	8
5	5	3	3	4
6	7	4	4	5
7	3	2	1	1
8	13	8	7	9
9	0	0	4	5
10	2	1	2	3
12	6	4	4	5
13	2	1	1	1
14	1	1	1	1
15	2	1	0	0
16	6	4	4	5
17	0	0	1	1
18	3	2	0	0
19	1	1	3	4
20	4	3	4	5
22	0	0	2	3
23	1	1	0	0
24	3	2	3	4
25	1	1	0	0
26	0	0	1	1
27	1	1	0	0
30	2	1	0	0
32	3	2	2	3
34	1	1	0	0
35	1	1	1	1
36	4	3	1	1
38	2	1	1	1
39	0	0	1	1
40	2	1	1	1
42	0	0	1	1
44	0	0	2	3
50	1	1	0	0
52	2	1	3	4
53	2	1	2	3
55	1	1	0	0
60	2	1	1	1
75	0	0	2	3
85	1	1	0	0
99	2	1	0	0

$\bar{X}$ = 13.75 (1967)

$\bar{X}$ = 19.35 (1968)

The Gary Corpsmen came from homes characterized by disruptive, substandard living conditions, and most engaged in potentially harmful spare time activity. Job opportunity, which could help to alleviate substandard home conditions and occupy these young men in constructive activity, was almost nonexistent. Only 4 per cent of the 1967 enrollees and 3 per cent of the 1968 enrollees stated that jobs were available to them. Most of the corpsmen do not come from the very lowest socioeconomic group--welfare recipients. Only 18 per cent (1967) and 20 per cent (1968) come from welfare recipient homes. Judging from the high proportion of substandard living conditions, welfare aid is failing to reach many needy families (Table 7).

TABLE 7: ENVIRONMENTAL FACTORS

	1967				1968			
	YES FREQUENCY	%	NO FREQUENCY	%	YES FREQUENCY	%	NO FREQUENCY	%
Substandard Living Conditions	166	65	91	35	98	62	60	38
Disruptive Home	132	51	125	49	81	51	77	49
Potentially Harmful Spare Time Activity	155	60	102	40	93	59	65	41
Limited Job Opportunity	247	96	10	4	153	97	5	3
Welfare Recipient	47	18	209	82	31	20	126	80

The average size family for corpsmen was six to seven with a

range of one to seventeen. These families are larger than the average for the general population in the United States. This factor coupled with limited financial resources contributes to break-down in family relations (Table 8).

TABLE 8: FAMILY SIZE

NO. IN FAMILY	1967 FREQUENCY (N=254)	1967 PERCENTAGE	1968 FREQUENCY (N=156)	1968 PERCENTAGE
1	5	2	1	1
2	14	5	8	5
3	29	11	14	9
4	34	13	23	15
5	37	15	22	14
6	37	15	18	12
7	20	8	17	11
8	27	11	14	9
9	21	9	10	6
10	11	4	7	4
11	6	2	12	8
12	6	2	5	3
13	1	0	1	1
14	4	2	1	1
15	1	[illegible]	1	1
16	1	0	1	1
17	0	0	1	1

$\bar{X}$ = 6.20 (1967)

$\bar{X}$ = 6.58 (1968)

Corpsmen entering during 1967 came from families with an average annual income of $2378.00 with a range of $8.00 to $8065.00. Those entering during 1968 came from families with an average income of $2447.00 and a range of $36.00 to $6787.00. Considering family size (average 6), it is obvious that the corpsmen represent homes with extremely limited material resources (Table 9).

TABLE 9: FAMILY INCOME

1967			1968		
INCOME	FREQUENCY (N=257)	PERCENTAGE	INCOME	FREQUENCY (N=158)	PERCENTAGE
$ 8	39	15	$ 36	25	16
324	1	0	196	1	1
798	2	1	357	1	1
956	9	4	518	2	1
1114	2	1	679	1	1
1272	11	4	1000	4	3
1430	19	7	1161	3	2
1588	6	2	1322	1	1
1746	6	2	1482	7	4
1904	6	2	1643	3	2
2062	15	6	1804	5	3
2220	1	0	1965	8	5
2378	20	8	2125	7	4
2536	11	4	2286	2	1
2695	2	1	2447	16	10
2852	8	3	2607	7	4
3010	26	10	2768	1	1
3168	10	4	2929	14	9
3326	4	2	3090	5	3
3484	6	2	3250	1	1
3642	7	3	3411	1	1
3780	4	2	3572	6	4
3958	12	5	3733	5	3
4116	3	1	3893	2	1
4432	4	2	4054	8	5
4590	2	1	4215	3	2
4748	3	1	4376	3	2
4905	1	0	4536	4	3
5063	5	2	5019	2	1
5221	3	1	5179	2	1
5379	1	0	5340	1	1
6011	3	1	5662	1	1
6169	2	1	5822	2	1
6643	1	0	5983	2	1
7433	1	0	6143	1	1
8065	1	0	6787	1	1

$\bar{X}$ = 2378 (1967)

$\bar{X}$ = 2447 (1968)

The great majority of entering corpsmen (70 per cent in 1967 and 68 per cent in 1968) were Negro. Next, in order of proportion, were men of Latin extraction followed by Anglos or whites. Only one Indian was represented in the 1967 sample; none in the 1968 sample (Table 10).

TABLE 10: RACE

RACE	1967 FREQUENCY (N=257)	1967 PERCENTAGE	1968 FREQUENCY (N=158)	1968 PERCENTAGE
White	31	12	33	21
Latin	45	18	17	11
Negro	180	70	108	68
Indian	1	0	0	0

With one exception, entering corpsmen were between the ages of 16 and 21, inclusive. The average entering age for both 1967 and 1968 was approximately 17.5 years (Table 11).

TABLE 11: AGE AT ARRIVAL

AGE	1967 FREQUENCY (N=257)	1967 PERCENTAGE	1968 FREQUENCY (N=158)	1968 PERCENTAGE
15	1	0	0	0
16	73	28	33	21
17	72	28	50	32
18	50	19	36	23
19	35	14	17	11
20	20	8	15	9
21	6	2	7	4

$\bar{X}$ = 17.5 (1967)

$\bar{X}$ = 17.7 (1968)

During 1967 the average number of months spent in the reading program was 3.9 with a range of less than one month to twelve months. Statistics for 1968 were incomplete since the data were collected before the end of the year.

TABLE 12: NUMBER OF MONTHS IN READING PROGRAM

MONTHS	1967 FREQUENCY (N=564)	1967 PERCENTAGE	1968 FREQUENCY (N=123)	1968 PERCENTAGE
0	36	6	13	11
1	91	16	41	33
2	99	17	45	37
3	75	13	16	13
4	55	10	5	4
5	45	8	3	2
6	43	8	0	0
7	41	7	0	0
8	35	6	0	0
9	19	3	0	0
10	16	3	0	0
11	5	1	0	0
12	4	1	0	0

$\bar{X}$ = 3.9 (1967)

$\bar{X}$ = 1.7 (1968)

INTRODUCTION TO THE READING PROGRAM

The Gary Reading Center teaches reading to functionally illiterate Job Corpsmen until they attain a public school reading level of beginning sixth grade. Staffed by twelve highly trained teachers and one chairman, the Center is unique. Concentrating on the students' sequential skills mastery and the complete individualization of the curricula to fit each student's needs, the Center staff utilizes a broad spectrum of commercial and Job Corps materials, methods, and techniques. With such a broad scope of possible curriclar offerings, the Center staff is provided a large degree of flexibility with which to meet each reading problem as it arises. The flexibility allows an attitude of and a continual mode of operation for innovation. Given the opportunity to delineate numerous paths of action within the broad framework and the multi-hued fabric of materials, the Center staff can develop new techniques, new methods, and new materials to solve reading problems.

THE TESTING PROGRAM *

Benefits of a definite, systematic, and valid testing procedure to any content program are rather obvious. Description of the testing procedure of the Gary Reading Center can perhaps prove helpful to public school teachers of reading and writing.

The fundamental goal of the Reading Center at Gary is to provide a developmental program to care for the individual differences of each corpsman enrolled. To provide a developmental program for each individual corpsman, a thorough testing program is of utmost importance. The complete testing program acts as a guide in helping the instructor determine how the corpsman can move both effectively and efficiently toward the objectives of the reading center. After examination of the test scores the instructor should be better able to determine the corpsman's mastery of such skills as word attack, grasping the main idea, structural analysis, as well as the corpsman's instructional level, his free reading level, and his frustration level. After determining the corpsman's weaknesses and strengths, the instructor can then use this information for grouped, semi-grouped, or individual instruction within the classroom unit.

INITIAL SCREENING - TESTING CENTER

The Gary Testing Center gives the Intermediate Stanford Achievement Test to all incoming corpsmen. Corpsmen scoring less than

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* This section was prepared by Don Gore and Lem L. Railsback. Original title, "A Testing Procedure as a System of Quality Control."

a 6.0 on the combined vocabulary and comprehension scores are then given a Revised Beta Intelligence test and referred to the Reading Center as part of their initial scheduling into classes.

TESTING: READING CENTER

Realizing that standardized scores are not always valid for this population group due to lack of motivation, vocabulary growth, and other factors, the Reading Center then retests these corpsmen to assure the staff that the corpsman in question does read on less than a sixth grade level. The Gates-MacGintire Primary Test, Form C-1 is given by the chairman in a formal situation. If the scores still indicate less than a sixth grade reading level, the corpsman is then enrolled in the Reading Center. The score on the Gates MacGintire Test determines which level the corpsman will enter. The levels are the following:

I -- 0 - 1.9
II -- 2.0 - 3.4
III -- 3.5 - 4.5
IV -- 4.6 - 6.0

In addition, the telebinocular test is administered to determine if an eye condition prevails. If an eye condition does exist, immediate attention by the Center doctor is requested. Along with the eye examination, the hospital administers an audio-autometer test to determine if a hearing condition exists.

All the above mentioned test results are recorded on a specially prepared carbonized analysis sheet along with age, last grade

completed, and previous Job Corps attended, if any. (See Appendix No. 1) These records are the responsibility of the chairman of the Reading Center.

CLASSROOM TESTING - INSTRUCTOR

With the information furnished by the chairman, the instructor proceeds to find the corpsman's specific strengths and weaknesses by using a diagnostic or semidiagnostic test. The test is designed to determine the corpsman's word attack skills, his ability to use the dictionary, reference skills, context clues, and his ability to find the main idea and to read for specific purposes.

The instructor may select any one of four tests or a combination of the four tests, the only requirement being that the instructor must retest the corpsman with the same diagnostic test when the student has successfully completed any part of the skills taught or when he has completed the work required in the reading skills area. The following tests are used:

Botel Reading Inventory, 3.
Gates-McKillup Reading Diagnostic Test, 4.
SRA Phonic Survey, 5.
Diagnostic Test of Word Perception Skills, 6.

After checking the diagnostic test, the instructor then circles all areas on the analysis sheet needing attention or writes comments where appropriate. When it appears that a corpsman has been misplaced, the instructor notifies the chairman immediately so that the matter can be corrected.

From the analysis of the test, the instructor can refer to a correlated list of skills as found in all of the commercial and innovative materials used in the Center to determine the starting point for the corpsman and to prescribe certain modules of work needed to develop specific skills. For example an analysis might look like this:

Context Clues - Corpsman cannot handle. Doesn't understand basic concept.

Level I	Level II	Level III	Level IV
Step up Reading Power Using Context Book A	RFU (Red) Using Context B C Reading for Purpose p. 23, 33, 37, 44-45	System for Success Voc. Dev. Yellow p. 77-81 Using Context C D RFU (Green or Red)	Building Reading Power Basic Reading Skills p.72, 91-99 Using Context E F

The instructor keeps up-to-date on corpsman's progress in any one skill by checking his work daily or semi-weekly. When the corpsman tends to become bored or confused in what he is doing, he is routed to other materials covering the same skill or skills. Many materials cover more than one skill, such as New Practice Reader, Vocabulary Development, Conquest in Reading, and others.

Although the diagnostic test helps the instructor know a corpsman's weaknesses and strengths, the instructor administers interim checks periodically to determine if real progress is being made. The interim instruments are these:

Morrison-McCall Spelling Scale, 7.
Dolch Basic Sight Word Test, 8.
Gray-Oral Reading Paragraphs (1-12), 9.
McCall Crabbs Standardized Paragraphs, 10.
Gilmore Oral Test, (1-12) 11.
Reading for Understanding Placements, 12.

After an instructor has used an interim test, the score or scores with comment are written immediately on the analysis sheet (middle column). This way, at a quick glance, an up-to-date analysis of a corpsman's progress is available.

A corpsman progresses from level to level according to his performance on the interim test, the level of work he is actually doing in the classroom, and teacher recommendations. When the instructor feels sure that the corpsman meets the necessary requirements for moving on into another level, the instructor submits the corpsman's folder to the chairman for final approval. The chairman then schedules the corpsman into the appropriate advanced level of instruction. The corpsman is eligible to take the Gates-MacGintire Reading Test for possible advancement into regular academic classes when he has consistently made above a sixth grade level on the interim test, when he is reading around or above a sixth grade level on his daily assignments, and when he has the teacher's recommendation. The instructor is warned to be cautious in sending corpsmen for the final test. Evidence must strongly indicate a functional reading level around or above the sixth grade. An instructor must be fair to the corpsman and let him know whether or not he is ready to take the test and explain the reason for the decision.

Even when a corpsman does not score above a 6.0 on the Gates-MacGintire Test, the teacher may produce evidence that the corpsman in question can and has done the work in class and may recommend his graduation into regular academic classes. But before sending a corpsman into regular academic classes, the instructor administers the diagnostic test

again. A corpsman's folder containing complete records on the corpsman's progress during his stay in the Center plus information for the communication skills teacher indicating possible problem areas in the corpsman's reading skills is then forwarded to the Communication Skills Department.

Through complete, systematic, thorough, multi-directed testing a corpsman's needs are quickly, efficiently, and accurately highlighted. With close focusing upon the corpsman's problems, a quick and effective frontal attack upon those problems can be mounted. By structuring the corpsman's work and progress through the aid of the testing program, the Center accomplishes its mission accurately, quickly, efficiently, and humanly.

(As a graphic illustration of the testing procedure, a flow chart of the various levels and tests used in the Reading Center is included as Appendix 2. As an extra reference, a bibliography of some of the standardized tests most frequently used in the Center is included as Appendix 4.)

THE COOPERATIVE TEACHING PROCEDURE OF THE GARY READING CENTER *

In its usual context, the phrase "cooperative teaching" is self-explanatory. However, as a procedure designed to utilize maximum teacher talent to insure greater learning opportunity for the student, the cooperative teaching procedure of the Gary Reading Center needs certain clarification.

Purpose

Obviously, the general overlying purpose of the procedure is to help the student more. While other benefits can occur in the process, the goal of extending more and better help to the student becomes both the determinant and the objective of the procedure.

Background

Several observations and assumptions are in order to lay a context of understanding for the procedure:

1. Teaching reading to functionally illiterate young men primarily concerns the development of certain fundamental skills, i.e.--phonetic analysis, structural analysis, identification of phoneme-phonogram relationships, visual acuity, recognition of derivatives, vocabulary development, locational skills, dictionary skills, skills in using contextual clues, and several "higher order" skills. The other components of basic reading--additional direction and development, comprehension and vocabulary growth on increasingly difficult levels, attitudinal structuring, and other "cumulative" effects--depend upon the adequate

* Written by Don Gore and Lem L. Railsback

development of these fundamental skills. While reading per se must certainly be a process of individual growth in the thought and emotional contents, the early skills simply must be accomplished to the extent of rather fluid functionality. In no way is the concept of the reading process as a civilizing tool to be diminished by the foregoing remarks. The emphasis upon the early skills is simply a more precise, tighter focusing on the areas with which the cooperative teaching procedure is necessarily primarily concerned.

2. That students possess individual differences, especially in learning processes, is axiomatic. While there are enough basic similarities among students to justify certain carefully considered predictions of behavior, the actual situation of each learner is a world of himself.

3. Since the Gary Reading Program is designed specifically to meet individual needs of students, a broad spectrum of innovative materials, uses, and procedures are currently present. This spectrum revolves within a basic philosophy and modus operandi around the student so that the student, whatever needs he may have, can receive opportunity for learning from all the 360° of the spectrum.

Need

Because of the focus on early basic reading skills and the individual student's needs, and because of the existing possibilities of the Gary Reading Program, another revolution on the innovative wheel is perhaps in order. The new diversion is one of enrichment that can

be inserted into the existing framework with no unforeseen difficulty. This added step is, of course, the cooperative teaching procedure.

Design and Operation

As professionals, teachers possess specialties. Because of individual differences in teachers, each teacher has one or several specialties at which he is very apt. To exploit these specialties of teachers, however, explicit procedures are sometimes quite useful. Simply stated, the procedure allows teachers to call each other into their classrooms for special student consultation and special content presentations. For example, if one teacher is excellent in teaching phonics but is not as masterful in handling projected visuals on context clues, and if another teacher is a past-master at presenting projected visuals on context clues, the two teachers can "swap" classes for approximately 15 to 30 minutes or whatever length of time needed for the special presentations. The natures of the students' needs, presentations, and content structure are the determinants of the actual amounts of time allotted for the procedure presentations. Other teachers may know and teach phonics very well, but they may think that a certain teacher's explanation of the silent "e" on the end of a word is unsurpassed. Under the procedure, these teachers may ask the teacher with the silent "e" specialty to come into all the classrooms at a certain class period on a rotating basis. Briefly, then, the procedure allows the best presentation and the best presentor of a particular specialty to serve potentially all the students in the Center rather than to

serve only one particular group of assigned students. Another possibility of the procedure is to make arrangements for a student who is experiencing a particular difficulty to attend the class of the teacher who excells in this specific area when that skill is being taught. Still, another possibility of the procedure is to allow one teacher who may be experiencing difficulty with a particular student to call in another teacher to aid in discovering the cause for and the remedy of the difficulty and to help re-establish rapport. Such an instance may arise if a student experiences a schedule change and is transferred within the Center from a male teacher to a female instructor, for example. If this transferred student happens to be unable, because of his past experience, to peaceably "take" instruction from the female instructor, the female instructor may call in the instructor(s) who previously taught the student. The difficulty can then be remedied, if possible; if not, then perhaps a recommendation signed by <u>two instructors</u> for transfer of the student back to the original teacher, or, if not possible, to a third instructor, contributes to a refinement of the administrative process of scheduling. In any event, a more careful, thoughtful, considerate attempt to help the student is made.

<u>Supervision</u>

Since professional action and attitude are essential to the success of the procedure, the need for added supervision is limited; that is, supervision of the procedure seems to consist physically of a simple added bookkeeping chore and to consist professionally of a

constant alertness to the quality of the presentations made under the procedure. It is assumed that the procedure can operate with a minimum of actual supervision. To keep the supervisor adequately informed, the teachers simply report the "special" presentations made for other teachers during the week on the back of the weekly attendance report. By listing the date and period, the specialty, and for whom the presentation was made, teachers can convey all needed information easily, quickly, efficiently to the supervisor.

Advantages

Cooperative teaching has several advantages. First and most obvious, of course, is that students have a better opportunity to learn. Second, the professional pride engendered by the recognition of the teachers' special skills can increase professional effort and staff morale. The sharing of specialties allows the teachers to learn from each other and to grow professionally in all specialties. Third, the administrative process of scheduling can be highly refined allowing for easy transfer of students and/or teachers to situations where the maximum teaching-learning conditions prevail. The resultant placing of students allows a more personal, humanistic handling of mechanical processes.

Other Possible Applications

Reading is, naturally, not the only area in which the cooperative teaching procedure can function. While the procedure described above is presently operative in the Gary Reading Center, the procedure

per se is applicable in any content area in any public school situation in which aggressive, progressive, alert leadership, and professional action are present. Besides it's capacity for broadening and enriching a content curricula, a cooperative procedure can also be utilized in teaching and developing socially desirable attitudes, proper personal hygiene, appropriate personal grooming, and etiquette. Such a procedure can perhaps function in any area within a public school curricula. Added significance of the potentialities of this arrangement emerge in small school situations in which newer techniques in teaching--such as team teaching--are prohibited by physical and/or budgetary considerations.

Competent, professional teachers must, of course, be included in such a cooperative environment. The focus or superstructure of the entire function, however, falls upon the shoulders of the supervisor. Because of the responsibilities of initiating and maintaining a cooperative teaching situation it behooves the supervisor to completely familiarize himself with the professional strengths and weaknesses of each member of his staff. The process itself of gaining such intimate knowledge can contribute to closer working relationships among the staff. After a close scrutiny of all the possibilities present in his staff, the supervisor can develop the cooperative teaching procedure with all its ramifications in so many areas--upgrading of staff status, self-images, morale, and other viable qualities. Certainly, the supervisor must possess a very good understanding of human behavior, of his role as a manager of desirable behavior, and a vision of the possibilities for working together.

USE OF AUTOMATED AURAL-ORAL TECHNIQUES*

The Theory

While reading is most certainly a visual experience, a native born adult illiterate can be taught to read through his ears. With his accumulative experiences as an individual in interplay with society, the adult illiterate possesses a wide range of understanding in how the American tribe operates. He possesses a relatively large speaking-hearing vocabulary resulting from his past experiences; he also possesses, if properly motivated, a capacity for intense concentration and singleminded toil toward goals that he understands and accepts. Consequently, by capitalizing on the adult's ear-mouth maturities and on his understandings and capacities as an adult, the teacher can validly, efficiently, and productively teach the adult illiterate to read. Because the adult's speaking-hearing vocabulary is already developed from a backlog of adult experiences, the teacher need have little concern with controlled vocabulary or graded word lists. Essentially, then, teaching reading to adults through aural-oral techniques consists of developing a bridge by which the student's ear-mouth maturities can be transferred into his eye-recognition development. The adult's accumulated system of oral meaning signals simply need be translated into a printed system of meaning signals.

The Location

As a point in fact, the Reading Laboratory Program at the

*This section written by Lem Londos Railsback is part of a longer paper presented at the National Reading Conference in December 1968 at Loyola University, Los Angeles, and later printed in The Psychology of Reading Behavior, Eighteenth Yearbook of the National Reading Conference (Milwaukee, Wisconsin: The Marquette University Press and The National Reading Conference, 1969), Edited by George B. Schick and Merrill M. May, pp. 207-211.

Gary Job Corps Center, San Marcos, Texas, illustrates the validity of the particular use of aural-oral techniques. Designed as a speed-up device to reinforce the regular classroom teachers' efforts, the fifty minutes laboratory program is in addition to the student's fifty minutes in the regular language classroom. Operating through the media of a modified language laboratory, the reading program offers aural-oral instruction from pre-recorded audio tapes, a mechanized system of self-contained modules of instruction. Essentially, the electronic and mechanical arrangements of the laboratory complex allow for complete individualization of program presentation and immediate availability of the instructor. This simulation of the ideal of one teacher-one student ratio offers many advantages. Individualization of instruction and constant availability of a teacher are especially important for Job Corps illiterates.

The Clientele

As drop-outs and push-outs of the public school system, Job Corps illiterates present definite challenges for the teacher. Whether for medical disorders, emotional hang-ups, physical deprivation, social isolation, or economic disadvantages, corpsmen essentially are adolescents unable to compete in a highly competitive society, especially with their peers. As adolescents, corpsmen experience the same strains as their more fortunate brothers but with more complications. Quite a few corpsmen are veterans of more sex, more violence, more pain, and more practiced television and movie house fantasies than the usual thirty-year-old, middle class citizen. The adult experiences juxtaposed with

the growing pains of adolescence produce certain deviate behaviors with special qualities. Special characteristics of illiterate corpsmen include a strong sense of failure and a poor self-image -- a lack of self-assurance and self-identity; rather short attention spans, overt and barely-below-surface hostilities, great reliance on folk mythologies, tendencies toward fantasy, and sub-standard dialects. Rather common, also, are physical barriers such as poor eye sight and underdeveloped coordination. The personnel of the laboratory are well aware of the effects of malnutrition.

Applied Theory

Since corpsmen are near-adults and possess the oral fluencies and many of the social understandings of adults, the aural-oral techniques of teaching adult illiterates to read can apply to the teaching of corpsmen to read.

Corpsmen need more motivation and personal guidance than adults. Often, corpsmen's reading problems are bound up with emotional problems; therefore, success with these illiterate near-adults presupposes a rather large emphasis on teacher counseling, flexibility in pacing of curricular content, and complete individualization. The automated aural-oral environment afforded in the laboratory program provides all three features. Each student has a private station, an individual control panel by which he can pace his own lesson, and an individual cartridge lesson, prescribed by the instructor after a diagnosis of the student's needs through initial and follow-up testing and counseling. The sequence of the lessons may be varied at will by routing the reader horizontally

into additional drill on a troublesome point or vertically into a new area of learning. The instructional staff monitors the student's work in his station and is available for special help.

The program is a blend of aural-oral clues and programmed techniques, influenced by linguistic insights. The student listens to his pre-recorded lesson and responds orally. He further responds to the stimuli by seeing and writing the printed forms of his aural content items. Thus, the student is hearing, speaking, seeing, and writing responses to aural stimuli in sequential, developmental, reinforcing small units. Within each self-contained module of instruction, the student checks his accuracy. Correct answers to his written answers are offered, and the replay of his tape module offers him an aural comparison of his oral responses and the teacher's voice, especially in producing and identifying the individual sounds and in pronunciation of words, phrases, and sentences. Correct responses are reinforced, and incorrect responses can be identified and replaced. This immediate aural feedback of his oral and written performances allows the student to assess his progress.

Content of the program involves work with the sound system through auditory discrimination, visual discrimination, and structural analysis. Also involved are illustrations of and developmental work in the processes of affixation, compounding, syllabication, and foreign borrowing. To give the student a reference guide for his independent reading, dictionary skills are also developed. Throughout the different phases of the program, the reading passages are constructed to reflect

the corpsmen's immediate environment; that is, the passages deal with the geographic, economic, social, and vocational conditions and situations through which the corpsmen operate during their stay at the Gary Center. Such "customizing" of the passages to make them as pertinent, interesting, and useful as possible to the corpsmen yields many returns in continued motivation and character development. In presentation of the sound system, a phonic approach is used. While a phonemic approach may be more desirable in terms of developing awareness of linguistic patterns on which to build more advanced understandings, a phonic approach seems more appropriate at this particular time segment of total program development. Since the primary strategy of the program is to offer students a technique of translating printed units into already known aural language patterns, the phonic approach (basically, a given spelling is pronounced in a certain way) has merit--the learner can get meaning from the reading through his aural skills. This approach, rather than the sound-based phonemic one, does not prevent the use of linguistic insights of syntax--the significance of word order, inflection, and function words--in communication. Finally, since phoneticians and linguists do not agree on the number of phonemes acting in the American language, and since the majority of dictionary makers continue to indicate pronunciations which sometimes vary from ordinary practice, a phonic approach seems at this point to be the most manageable system to use with this particular clientele.

In all phases of the program, especially in the teaching of the sound system, the teacher's voice is the principal stimulator and

director of action and model of standard dialect. Through the interplay between the teacher's voice and the student's aural-oral skills, audio clues trigger associations between the aural, oral, and printed forms as units of meaning. To reinforce the recognition of printed forms as meaningful units, the student reproduces the printed forms. Throughout his laboratory experience, the student remains "tuned in" for meaning through the automated aural-oral environment.

SAMPLE MODULE ADAPTED TO THE ELECTRONIC LABORATORY

Description of Materials

The reading student at Gary spends a "two-hour block" in the Reading Center. The student spends one hour in the regular classroom and the following hour in a language laboratory. Studying the American sound system as an initial skill--developing a decoding process through learning the phoneme-phonogram relationships in a prescribed phonics system--the student works with his initial presentation of the material in the regular classroom. During the second hour the student is afforded the opportunity to practice the same material content that he met the preceding hour. As a reinforcing device, the electronic environment of the language laboratory complements and helps ensure the efforts of the classroom teachers. Because of the immediate reinforcement and the opportunity to practice many times the recognition and use of a particular item of content, the laboratory speeds up the learning process. Through a fairly close correlation of laboratory presentations with classroom presentations, and through a programmed design by which the student can accelerate, slow, repeat, and "branch" to remedial taped lessons, the laboratory procedures are aimed at the development of complete mastery of a skill or item by a student before another skill or item is presented. The "saturation effect" of the procedure produces a superior reading product in a relatively short period of time.

SOUND SYSTEM,* the work under examination in this section, is

*Sound System, Lab Manual accompanies Step Up Reading Power by Don Gore, Ada Spiller, and Ike Kallus. (San Marcos, Texas: Texas Educational Foundation, Inc., Gary Job Corps Training Center, 1967).

the first completed volume in the series of materials utilized in the electronic laboratory. Three additional volumes are now complete: Affixation, Dictionary Skills, and Compounds, Syllables and Foreigners.

Scope of Material and Testing Procedure

SOUND SYSTEM contains 90 lessons on content, seven reviews, seven sectional tests, one General Pre-Test, and one General Post-Test. The single volume is designed to teach 92 content items. The volume functions in an electronic programming context with self-pacing, self-reviewing, self-evaluation and correction, and branching features so that, properly used, the entire 92 items in the prescribed phonics system are mastered as will be seen in Chart 1 which is a copy of the table of contents of SOUND SYSTEM showing in detail the development phonics system adapted by the Center.

CHART 1: SOUND SYSTEM

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ANALYSIS OF READING TEST RESULTS

Upon entry to and exit from the Reading Center program the Gates MacGintire Reading Test (vocabulary), the Gates MacGintire Reading Test (comprehension), the Botel Reading Inventory (vocabulary) and the Botel Reading Inventory (comprehension) were administered to the subjects in this study. All corpsmen enrolled in the program during 1967 and the first half of 1968 for whom records were complete are included in the study.

The 382 subjects enrolled in the reading program during 1967 scored a mean 4.1 grade level equivalent on the Gates vocabulary test section at pretest. The mean grade level equivalent at posttest, following an average 3.9 months period of instruction, was 5.0 or the equivalent of fifth grade performance. This gain in reading vocabulary represents more than 2 months growth for each month spent in the program. The analysis of variance between trials result (pretest-posttest) was significant at the <.0000 level (Table 13).

TABLE 13: ANALYSIS OF VARIANCE FOR THE GATES MacGINTIRE READING TEXT (VOCABULARY), 1967

SOURCE	MEAN SQUARE	D.F	F-RATIO	P
Total	18.3335	763		
Between	24.4402	381		
Trials	1598.8252	1	197.910	.0000
Error (T)	8.0785	381		

N Valid	382	T Mean	1	2
			4.1130	5.0280

The 380 subjects completing both pretest and posttest requirements during 1967 scored an average grade level equivalent on the Gates comprehension test section of 4.2 at pretest and 5.6 at posttest. Considering an average length of time in the program (3.9 months), this represents a mean gain of almost <u>four</u> months of growth in comprehension for every month enrolled in the reading program. The analysis of variance result (pretest-posttest) was significant at the <.0000 level (Table 14).

TABLE 14: ANALYSIS OF VARIANCE FOR THE GATES MacGINTIRE READING TEST (COMPREHENSION), 1967

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
Total	26.5888	759		
Between	32.1275	379		
Trials	3629.4084	1	314.397	.0000
Error (T)	11.5440	379		

N Valid	380	T Mean	1 4.2460	2 5.6281

Results from the 203 valid scores of those taking the Botel Test (vocabulary) in 1967 were less positive than those of previous tests. The mean pretest score was 3.1 and the mean posttest score was 3.6 for an average gain of .5 year or a little over one month's gain for each month enrolled in the reading program. The analysis of variance (pretest-posttest) was significant at the <.0000 level (Table 15).

TABLE 15: ANALYSIS OF VARIANCE FOR THE BOTEL READING INVENTORY (VOCABULARY), 1967

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
Total	5.8499	405		
Between	7.9387	202		
Trials	276.7487	1	114.356	.0000
Error (T)	2.4200	202		
N Valid 203	T Mean	1	2	
		3.0586	3.5807	

The mean pretest grade level equivalent on the Botel Test (comprehension) was 3.7 and the mean posttest score was 4.8 (229 valid scores). The mean gain for the 3.9 months period was 1.1 years or an average gain of almost $3\frac{1}{2}$ months for each month enrolled in the reading program. The analysis of variance result (pretest-posttest) was significant at the <.0000 level (Table 16).

TABLE 16: ANALYSIS OF VARIANCE FOR THE BOTEL READING INVENTORY (COMPREHENSION), 1967

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
Total	18.8208	457		
Between	24.4556	228		
Trials	1140.0054	1	137.871	.0000
Error (T)	8.2686	228		
N Valid 229	T Mean	1	2	
		3.6882	4.6860	

Since the test records for 1968 were not available for the full year (this study was started during 1968) the number of subjects with complete records was considerably fewer than for 1967.

The mean grade level equivalent for the pretest of the Gates Test (vocabulary) was 4.7 and the mean at posttest was 5.8 with a mean gain of 1.1 years during the average length of time (1.7 months) spent in the reading program. This represents a mean gain of over seven months in vocabulary for each month enrolled in the reading program. The analysis of variance result (pretest-posttest) was significant at the <.0000 level (Table 17).

TABLE 17: ANALYSIS OF VARIANCE FOR THE GATES MacGINTIRE TEST (VOCABULARY), 1968

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
Total	22.0133	113		
Between	26.4984	56		
Trials	343.7508	1	29.173	.0000
Error (T)	11.7830	56		
N Valid 57	T Mean	1	2	
		4.7263	5.8245	

The mean pretest score for the Gates Test (comprehension) was 4.4 and the mean posttest score was 5.9 for a gain of 1.5 years during the mean 1.7 months spent in the reading program during 1968. The average gain was over one year per month spent in the program. The

analysis of variance result (pretest-posttest) was significant at the <.0000 level (Table 18).

TABLE 18: ANALYSIS OF VARIANCE FOR THE GATES MacGINTIRE READING TEST (COMPREHENSION), 1968

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
Total	26.7853	111		
Between	25.5703	55		
Trials	630.0000	1	36.988	.0000
Error (T)	17.0327	55		
N Valid 56	T Mean	1 4.3946	2 5.8946	

The mean pretest score was 3.4 and the mean posttest score was 4.2 for a gain of .8 year or approximately five months per month enrolled in the program. The analysis of variance result (pretest-posttest) was significant at the <.0056 level (Table 19).

TABLE 19: ANALYSIS OF VARIANCE FOR THE BOTEL READING INVENTORY (VOCABULARY), 1968

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
Total	14.2459	83		
Between	9.9174	41		
Trials	134.4000	1	8.591	.0056
Error (T)	15.6439	41		
N Valid 42	T Mean	1 3.3785	2 4.1785	

The mean pretest score was 4.7 and the mean posttest score was 5.5 for a gain of .8 year or about 5 months gain per month enrolled in the program. The analysis of variance result (pretest-posttest was significant at the <.0124 level. The relatively lower level of significance (1968 versus 1967) is the result of smaller numbers of valid scores for 1968 (Table 20).

TABLE 20: ANALYSIS OF VARIANCE FOR THE BOTEL READING INVENTORY (COMPREHENSION), 1968

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
Total	18.3461	71		
Between	16.8593	35		
Trials	116.8055	1	6.863	.0124
Error (T)	17.0198	35		
N Valid	36	T Mean	1 4.6916	2 5.4972

CONCLUSIONS

Certain limitations are relevant to the interpretation of statistical data used in this study: 1) This was an ex post facto study, statistics were recorded before the principal investigators created the design of the study; however, trained testing personnel were utilized in the collection and recording of data. 2) The number of valid scores for each analysis was not equal to the population enrolled in the reading center during 1967 or 1968; data for some 1967 subjects was incomplete. The omissions did not appear to follow any particular pattern. Data for 1968 subjects were limited to those enrolled during the earlier months of the year since the study became operational during the latter part of the year. Test analyses for 1968 could be inflated because of the possibility that slower students were still enrolled in the reading program when test analysis was initiated.

Since the analyses within the body of this study represent summarization of relevant data, a profile of the "average" corpsman enrolled in the reading program during the years 1967 and 1968 is presented here.

The 1967-1968 Reading Program Enrollee: A Demographic Profile

The "average" corpsman may have arrived at Gary from any city size; no pattern of origin is apparent. He has been out of school 14 months but he completed the ninth grade. He is rated fair to good in English competence by the applicant interviewer, but the home language may be English or Spanish. The corpsman has been unemployed for 15

months and his home is characterized by substandard living conditions, disruption, harmful spare time activities, and limited job opportunity. Despite these conditions his family has probably escaped welfare status. The corpsman's family has 6 members and the family income is $2400.00 annually. He is most likely an Afro-American or Mexican-American and he is 17.5 years of age upon entry to the Gary Center.

The Reading Program: 1967 Profile

The enrollee in 1967 spent 3.9 months in the reading program. He gained 1 to 2 months in vocabulary development and 3½ to 4 months in reading comprehension for each month spent in the program.

The Reading Program: 1968 Profile

The corpsman in 1968 who was eligible for the reading program gained 5 to 7 months in vocabulary development and 5 to 12 months in reading comprehension for each month he studied in the program. These results reflect two possibilities: 1) the 1968 reading program was superior to the 1967 program; and/or 2) incomplete results for 1968 biased the results.

Comment

The direct observations of the investigators and the data of this report lead the investigators to reach the conclusion that the Gary reading program is a welcome alternative to the reading program (or lack of program) typically provided to young men (and women) by public educational

institutions. The key elements in the success of the program appear to be the diagnosis of reading deficiencies, the individualization of instruction based upon this diagnosis, the multi-media approach utilizing both commercial materials and those developed by staff members, the apparent (by observation) high motivational level of students, and the teamwork of skillful staff members. It seems reasonable to conclude that the successful organizational framework developed at the Gary Center could be adapted by other institutions charged with similar responsibilities to school drop-outs and potential school drop-outs. This study presents evidence in direct contradiction to those who propose that compensatory educational efforts are relatively fruitless. The argument for compensatory education is bolstered by the fact that the young men in this program make rapid gains in achievement despite the fact that they have spent an average of 9 years in school and are 5 years behind in reading skills.

Recommendations for Future Evaluation

1. A systematic recording of all pertinent statistical data for all corpsmen should be filed in computer banks. Periodic profiles should be recorded to illustrate emerging patterns of change.
2. Test data from all academic programs should be filed in computer banks as soon as available. Instructors should develop a tie with this storage system to ensure continuous diagnosis and evaluation of enrollees. Renewed effort should be initiated to prevent incomplete data so that increasingly accurate growth patterns will be available.
3. A study designed to test the effects of motivational factors, e.g.,

close support of professionals, monetary payment for achievement, desire to enter job training, knowledge of progress, could prove extremely beneficial in assessing factors contributing to reading success and in implementation of programs in other contexts.

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APPENDIX 1

APPENDIX I

READING CENTER GARY JOB CORPS CENTER

Name _____ Date _____

Age _____ Last Grade _____ Previous J.C. _____

Eye Test _____ Ear Test _____

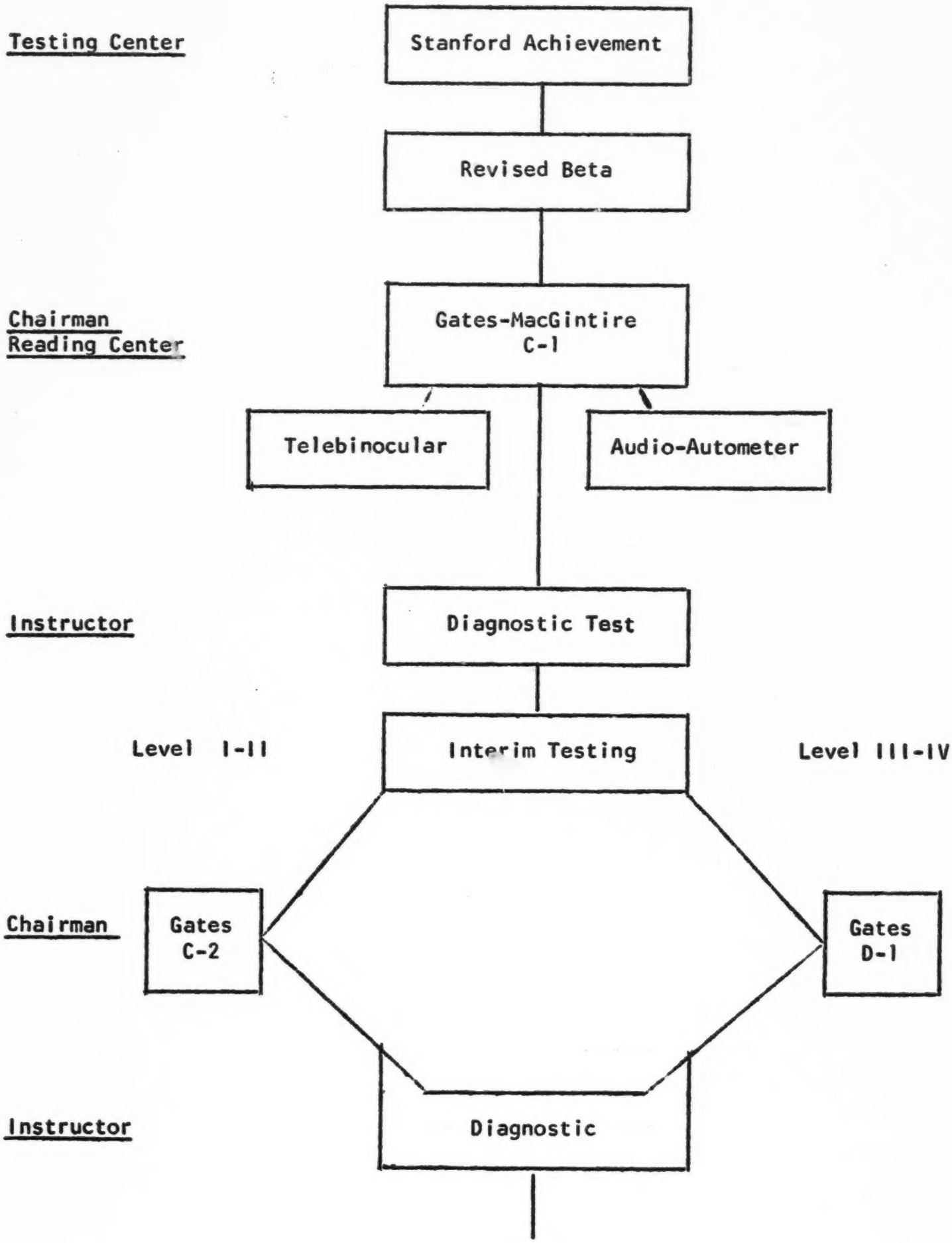
	Pre-Test Voc.	Pre-Test Comp.		Post-Test Voc.	Post-Test Comp.
Gates:			Revised Beta:		
SAT:			WAIS:		
Botel:					
Gates:					
Botel:					

INTERIM TEST

Test	Date	Scores

APPENDIX 2

APPENDIX 2


Testing Center
Stanford Achievement
Revised Beta
Chairman
Reading Center
Gates-MacGintire
C-1
Telebinocular
Audio-Autometer
Instructor
Diagnostic Test
Level I-II
Interim Testing
Level III-IV
Chairman
Gates
C-2
Gates
D-1
Instructor
Diagnostic
Graduation

APPENDIX 3

APPENDIX 3

GARY JOB CORPS READING CENTER
EVALUATION INSTRUMENTS *

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* Bibliography by Lem L. Railsback

APPENDIX 4

APPENDIX 4

LIST OF MATERIALS AND SOURCES USED IN THE GARY READING LABORATORY, 1965-1969

Compiled as a Special Public School Service Project

by

Ronald Allen

Don Alston

Carl Banks

Clifton Bonhomme

Facunda Garza

David Guevara

Charles Hannah

Frank Hayes

Melvin Jones

Robert Linton

under the direction of

Lem L. Railsback

Texas Educational Foundation, Inc.

Gary Job Corps Center

San Marcos, Texas

1969

Abraham Lincoln--D-W

A First Course in Phonic Reading, Book I--E-P

Adult Reader--S

A Phonetic Reader Series (Set of Six)--E-P

A Second Course in Phonic Reading, Book 2--E-P

A Serviceman's Reader, Men in Armed Forces--S-D

A Tale of Two Cities--McG-H

Aud-X, Model A--E-D-L

Study Guides RA and BA

Word Introduction Filmstrips and Recordings AS-AA

Study Guides AX-AA

Word Introduction Filmstrips and Recordings AX-RA

Study Guides AX-RA

and other

Ayer Standardized Spelling Test--S

Bacteria--G

Basic Dictionary of American English--H-R-W

Basic Language Skills 300A--A-E-P

300B

600A

600B

Basic Reading Skills--S-F

Ben Franklin--D-W

Ben Hur--McG-H

Bob--Son of Battle--McG-H

Botel Standardized Test Batteries--F

Word Opposites, Level A

Word Recognition, Level A

Phonics Survey, Level A

Word Opposites, Level B

Word Recognition, Level B

Phonics Survey, Level B

Buffalo Bill--G

Building Experiences RA-AA--E-D-L

Building Reading Power Kit--C-E-M-B

California Reading Test, Forms w, x, and y--C-T-B

Call of the Wild--McG-H

Cases of Sherlock Holmes--McG-H

Charley the T.V. Repairman--McG-H

Child's Spelling Rules--E-P

Christopher Columbus--D-W

Christopher Columbus--G

City Beneath the Sea--B

Conquests in Reading--McG-H

Consecutive Paragraphs--McG-H

Controlled Reader--E-D-L

Processing Motor CR-MT

Processing Filmstrips CR-PTBA and CR-PTCA

Controlled Reader Study Guides RA through FA

Controlled Reader Fluence CR-AA

Controlled Reader Accelerated Discrimination CR-AA

amd other

Controlled Reader, Junior--E-D-L

Cool It, Man--McG-H

Count of Monte Cristo--McG-H

Craig Reader--A

Detroit Word Recognition Test, Forms a,b,c,d--H-B-W

Developmental Reading Test--L-C

Diagnostic Test of Word Perception Skills--McG-H

Dictionary Techniques--E-P

Drawing Conclusions A--B-L

Dr. Spello Workbooks--McG-H

Economy Chart Outfit--A-S

Electricity--G

Eli Whitney--G

English as a Communication Skill--S-D

Eye-Hand Coordination Workbood--E-D-L

Fire on the Mountain--B

Flamingo Feather--McG-H

Flash X--E-D-L

Spelling Discs X-14, X-15, X-16

Manuals and Progress Pads

Word Recognition Discs FX-RA through FX-FA

Flight to the South Pole--B

Flying--G

Folk Stories--G

Following Directions, Books A Through F--B-L

Following Directions, CD--C-T-B

Fourth of July--G

Frank, the Vending Machine Repairman--McG-H

Fun with Words, C through F--D-F

George Washington--D-W

George Washington Carver--G

Getting the Facts, Books A through F--B-L

Getting the Main Idea A--B-L

Gilmore Oral Reading Tests--H-R-W

Go Magazine AA, BA, CA, DA, EA, FA--E-D-L

Gray Standard Oral Reading Test--B-M

Greek and Roman Myths-McG-H

Group I Filmstrips (Set of 8)--J-B-L

Group II

Group III

Phonetic Picture Cards

Group Word Teaching Game--A-S

Hunting Grizzly Bears--B

Icebergs and Glaciers--G

Imaginary Line Handwriting (Cursive)--S

Imaginary Line Writing Booklets--S

Imaginary Line Writing Pad--S

Indian Paint--McG-H

Interpretations I and II, DC--C-T-B

Irish Stories--G

Ivanoe--McG-H

I Want to Read and Write--S

Joe the Salesman--McG-H

John F. Kennedy--G

John, the Second Best Cook in Town--McG-H

Juarez, Hero of Mexico--McG-H

Keys to Basic Learning--A-E-C

King Arthur and his Knights--McG-H

Kittle's Manuscript Writing for Adults Workbook--E-D-L

Language Master--A

Basic Vocabulary Building Program

Set I, Nouns: Everyday Things

Set II, Verbs: Action Words

Set III, Basic Concepts

Set I, Phrases

Set II, Sentences

Set III, Language Reinforcement

Set I, Practical Vocabulary and Expression

Set II, Everyday Expressions

Set III, Industrial Supplement

Set IV, Stress and Intonation

Set I, Basic English Phonetics

Set I, Sound Blending and Beginning Consonants

Set II, Consonant Blends and Irregular

Set III, Word Building and Word Analysis

Blank Card Sets, Standard Size

Dual Headphone Adapters

Interconnecting Cable

Learning and Writing English--S

Listen Tapes and Workbooks L--DA--E-D-L

Listen and Read Tapes and Workbooks L-EA--E-D-L

Locating the Answer, Books A through F--B-L

Lost Uranium Mine--B

McCall Crabbs Standardized Reading Tests, Books A through E--T-C-C-U

Manuscript Paper--S

Map Skills for Today--A-E-F

Marco Polo--G

Mastering Spoken English I--McG-H

Men in the Armed Forces--S-D

Men of Iron--McG-H

Minute-Minder Timer--H

Morrison-McCall Spelling Scale--H-B-W

My Country--S

My Puzzle Book No. 1--G

New Flights in Reading--S-D

News for You, Levels A and B--N-R-P

New Practice Readers, Books A through F--McG-H

New Webster Word Wheels--McG-H

New Year's Day--G

Nick the Waiter--McG-H

Nifty Sentence Strips--A-S

On Jungle Trails--McG-H

Perceptual Accuracy and Visual Efficiency Filmstrip--E-D-L

Phil the File Clerk--McG-H

Phonetic Drill Cards--A-E-P

Phonetic Quizmo Game--A-S

Phonetic Picture Cards--J-B-L

Phonetic Word Cards--A-E-P

Phonic Word Builder--A-S

Phonics We Use, Books A through G--L-C

Primary Mental Abilities Test, Levels K-1, 2-4, 4-6, 6-9, 9-12, and Adult--S-R-A

Programmed Reading for Adults--McG-H

Pronoun Parade, C, D, and E--D-W

Rain, Hail, Sleet, and Snow--G

Reading Comprehension--C-T-B

Reading Development Kit A--A-W

Reading for a Purpose--F

Reading for Understanding, General--S-R-A

Reading Lab, IIA, IIB, IIC, IIIA--S-R-A

Read--Study--Think--A-E-P

Remember the Alamo--D-W

Rhythms and Dances, Book 3--G

Robert E. Lee--D-W

Robinhood Stories--McG-H

Royal Road Readers--A-E-P

Sacred Well of Sacrifice--B

Screening Tests for Identifying Children with Specific Language Disability--A-E-P

Search for Piraha--B

Sentence Builder--A-A

Series of Adult Readers--R-D

- Second Chance
- Mystery of the Mountain
- Send for Red
- Workers in the Sky
- Men Who Dare the Sea
- Santa Fe Traders
- Valley of 10,000 Smokes
- A Race to Remember
- I Fell 18,000 Feet
- What's on the Moon
- First at the Finish
- Guides to High Adventure

Servicemen Learn to Read--S-D

Skill Builders, Levels I through VI--R-D

Skill Building--E-D-L

Simon Bolivar--McG-H

Spelling Kit--H-B-W

Spelling Labs IIB and IIC--S-R-A

Spelling Workbook for Early Primary Corrections--A-E-P

Springboard Program, Biography--P

Springboard Program, Fiction--P

Springboard Program, Science--P

Springboard Program, Social Studies--P

Spring Holidays--G

Standardized Oral Paragraphs, Series 1500--A-E-C

Standard Reading Tests--A-E-F

Stars--G

Step Up Reading Power--McG-H

Stories for Today--S-D

Stories of Champions--G

Stories of Twenty-Three Famous Negro Americans--S

Story of our Flag--D-W

Syllable Concept--A-E-P

System for Success, Books I and II--F

Tach-X--E-D-L

Word Recognition Filmstrips TX-RA through TX-FA

Word Recognition Workbooks TX-RA through TX-FA

Accuracy (Syllables, Numbers, Letters) Filmstrip

and other

Tactics in Reading I and II--Sc

Tapes on Spalding Sounds--Sp

Teaching Adults to Read, Series 1500--A-E-C

Tests for Teachers on Phonics--H-B-W

Test of Word-Number Ability--S

Test Your Language Skills--S-D

The Amazon--G

The Colorado--G

The Gold Bug and Other Stories--McG-H

The Gold Rush--D-W

The Job Ahead, Levels I, II, and III--S-R-A

The Mississippi--G

The Trojan Horse--McG-H

The Wright Brothers--G

They Served America--S

They Work and Serve--S

To Have and To Hold--McG-H

Toss Words Game--D-W

Using Contexts, Books A through F--B-L

Viking Treasure--B

Vocabulary Development, Levels I through VI--M

Vowel Lotto Game--A-S

Weather Experiments--G

What the Letters Say--A-S

Why Stories--G

Wild Animals I Have Known--McG-H

Word Analysis, Levels I through VI--M

Word Analysis Charts--McG-H

Word Attack--H-B-W

Word Banks 300--A-E-C

Word Blends Game--A-S

Word Opposites Test (Reading)--F

Word Prefixes Game--A-S

Word Suffixes Game--A-S

Word Wheels--McG-H

Working with Sounds, Books A through F--B-L

Write-On Kit--S

CODE AND LIST OF PUBLISHERS

A-W	Addison, Wesley Publishing Company
Al	Alamo Audio-Visual Aids
A-E-C	Allied Education Council
A-E-P	American Education Publishers
A-S	American Seating of Texas
B-L	Barnell-Loft, Ltd.
B	Benefic Press
B-M	Bobbs-Merrill Company
C-T-B	California Test Bureau
D-W	Dexter-Westbrook
E-D-L	Educational Developmental Laboratories
F	Follett Publishing Company
G	Garrard Books
H-B-W	Harcourt-Brace-World
H-R-W	Holt Rinehart, and Winston
H	Hoover
J-B-L	J. B. Lippincott
L-C	Lyons and Carnahan
M	Macmillan and Company
McG-H	McGraw-Hill, Webster Division
N-R-P	New Reader Press
P	Portal Press
S-R-A	Science Research Associates
Sc	Scott, Foresman, and Company
Sp	Spalding Reading Institute

S	Steck-Vaughan
S-D	Superintendent of Documents
T-C-C-U	Teachers College, Columbia University
W-M	William Morrow and Company

APPENDIX 5

APPENDIX 5

The Gary Reading Laboratory provides students with drill work in four basic content areas, or skill blocks, concerned with American English. Work centers around (1) the sound system, (2) the process of affixation, (3) the process of compounding, the process of syllabication, and the process of absorption, or borrowing of foreign words, and (4) dictionary skills. The attached lists indicate groupings and specific items included in the program. Each specific skill-lesson is designed to be no longer than fifteen minutes.

READING LABORATORY PROGRAM

I. Sound System

A. Single Consonants

l
s_1
s_2
t
n
r
d
p
b
c_1
c_2
m
g_1
g_2
f
w
k
v
h
j
x

B. Vowels

i
y
a
e
o
u

C. "R" Effect

er
ur
ir
ear
or
ar

D. Consonant Blends

bl
cl
fl
gl
pl
sl
br
cr
dr
pr
tr
sc
sm
sn
sp
st
sw

E. Consonant Diagraphs

th_1
th_2
ch_1
ch_2
ck
sl
wl
nk
ng
pl

F. Vowel Diagraphs

oo
ow
ou
au
aw
ew
oi
oy
ai
ea
ee
ie
ai
ay
oa
ei
ey
oe
igl
ough
eigh

G. Special Combinations

ti
ci
si
et
dge
augh

H. Silent Letters

kn
wr
mb
gn
gl
rh
ps
pw

I. Endings

ed
Final silent "e"

II.. Affixation

A. Prefixes

in-
ad-
un-
trans-
de-
pre-
ex-
pro-
re-
miss-
mis-
com-
con-
co-
sub-
inter-
dis-
now-
bi-
di-
super-
extra-
per-

B. Roots

hydra
log
mid
phon
fid
omni
bio
path
mor
mort
ped
viv
corp

Roots, Cont.

morph
polic
polis
police
polise
act
scrip
scrib
mis
miss
mit
mitt
spec
spect
serv
serve
port
voc
medit
vid
vis
vic
vise
vide
vice
stru
struct
fac
fact
duc
dut
ject
rupt
fract
frag
vict
vinc
cide

C. Suffixes

-s
-es
-ly
-ish
-ant

Suffixes, Cont.

-ent
-able
-ible
-er
-ing
-ire
-ist
-ic
-ful
-less
-ment
-logy
-ed

III. Compounds, Syllables, and Foreign Words Absorbed into English

A. Compounding Process of English
B. Syllabication of English
C. Foreign Words and Process of Absorption

IV. Dictionary Skills

A. Location of Words
B. Pronunciation
C. Alphabetical Order
D. Location of Words
E. Guide Words
F. Definitions
G. Multiple Definitions
H. Troublesome Pairs
I. Affixes
J. Selection of Definition According to Context
K. Syllabication and Accents
L. Multiple Pronunciations
M. Spelling Exercise and Illustrations
N. Idioms
O. Special Words
P. Homographs